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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/492,373	01/27/2000	Yuzo Horikoshi	991444	9795
38834	7590	05/04/2004	EXAMINER	
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			SHOSHO, CALLIE E	
		ART UNIT	PAPER NUMBER	
		1714		

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/492,373	HORIKOSHI ET AL. <i>cb</i>
	Examiner Callie E. Shosho	Art Unit 1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 February 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,4,6-10 and 14-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,4,6-10,14-19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

1. The following new grounds of rejection are necessitated by applicants' amendment filed 2/13/04 and thus, the following action is final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 4, 6-10, and 14-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(a) Applicants have amended each of claims 1, 14, 16, and 17 to recite that the copolymer has "glass transition point less than or equal to 50 $^{\circ}$ C". It is the examiner's position that this phrase fails to satisfy the written description requirement under the cited statute since there does not appear to be a written description requirement for the upper limit of the glass transition temperature of 50 $^{\circ}$ C in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. Applicant has not pointed to any portion of the specification, and examiner has not found any support for this phraseology in the specification as originally filed.

Applicant has not pointed to, nor has examiner found, any support in the present specification for claiming the upper limit of the glass transition temperature as 50 $^{\circ}\text{C}$. While there is support in the specification on page 7, lines 23-24 of the glass transition temperature of “at or below 70 $^{\circ}\text{C}$ ” and from “-30 through 70 $^{\circ}\text{C}$ ” and Table 1 discloses copolymer with glass transition temperatures both above and below 50 $^{\circ}\text{C}$, there is no support for the recitation of 50 $^{\circ}\text{C}$ as the upper limit of the glass transition temperature in the above cited phrases.

(b) Claims 1, 14, and 17 have each been amended to recite “1 wt% or more of polymeric monomer including a polar group”. It is the examiner’s position that this change fails to satisfy the written description requirement under 35 USC 112, first paragraph since there does not appear to be a written description requirement for this phrase in the application as originally filed, In re Wright, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163.

It is noted that Table 1 on page 13 of the present specification discloses copolymers obtained from monomers, in addition to styrene and alkyl (meth) acrylate, such as (meth)acrylic acid, vinyl pyridine, 2-hydroxypropyl-N,N,N-trimethylammonium chloride acrylate, and N,N-diallylmethylammonium chloride, in amounts of 5%, 7%, and 10%. However, these few specific embodiments do not provide support for applicant to broadly recite that the polymeric monomer including polar group is present in amount of “1 wt% or more” given that the recitation of “1 wt% or more” clearly encompasses any amount greater than or equal to 1% such as 20%, 50%, 80%, etc. for which there is clearly no support in the specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 4, 6-10, and 14-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claims 1, 14, and 16-17 have been amended to recite that the monomers include “styrene derivatives”, “alkyl acrylate derivatives” and “alkyl methacrylate derivatives”. The scope of the claims is confusing because it is not clear what is meant by “derivatives”. What compounds are encompassed by this phrase?

(b) The scope of claim 19, which depends on claim 1, is confusing because the limitation of claim 19 is already required in claim 1. On page 8 of the amendment filed 2/13/04, applicants state that claim 19 is newly added to recite limitations of original claim 2 which was inadvertently cancelled. However, it is noted that while claim 2 was cancelled, the limitations of claim 2 were inserted into claim 1. Thus, claim 19 appears redundant because it recites the same limitation as claim 1. Should claim 19 be cancelled?

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 4, 6-10, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al. (U.S. 6,248,805) in view of Patel et al. (U.S. 5,977,210) and Fujisawa et al. (U.S. 5,997,136).

The rejection is adequately set forth in paragraph 4 of the office action mailed 11/14/03 and is incorporated here by reference.

Response to Arguments

8. Applicants' arguments filed 2/13/04 have been fully considered but they are not persuasive.

Specifically, applicants argue that none of the cited references disclose that copolymer is obtained from 1 or more wt% of polar monomer as required in the present claims.

However, it is noted that Nguyen et al. disclose an ink jet ink comprising (i) 0.1-10% polymer which has the structure $A_xB_yC_z$ where A is a hydrophobic monomer such as alkyl (meth)acrylate, B is a hydrophobic monomer such as styrene, and C' is a monomer which has a highly polar functional group including (meth)acrylic acid, (ii) solvent which is liquid at room temperature, and (iii) colorant which is a dye or pigment wherein the colorant is dispersed in the polymer. The polymer has glass transition temperature of -25 to 110 $^{\circ}\text{C}$ and is produced using emulsion polymerization. The polymer is obtained from 5-95% monomer A, 5-95% monomer B, and 0-30% monomer C.

Attention is drawn to col.19, line 35 which discloses copolymer obtained from 40% styrene, 40% ethyl acrylate, and 20% acrylic acid. Such copolymer is obtained from type and

amounts of monomers identical to those presently claimed. Further, it is calculated using glass transition temperatures of styrene, ethyl acrylate, and acrylic acid of 100 °C, -22 °C, and 106 °C, that the glass transition temperature of such copolymer is 40 °C which falls within the glass transition temperature presently claimed.

Applicants also argue that the inks disclosed in the cited references do not have the effect of rapid drying and therefore do not provide high quality image by stable dispersion due to rapid drying.

Firstly, it is noted that there is no requirement in the claims regarding rapid drying. Secondly, even if such limitation were present in the claims, given that combination of cited references disclose ink comprising same types and amounts of ingredients as presently claimed, it is clear that such ink would inherently rapidly dry.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
5/3/04